

The Electronic Government of Quebec—The Canadian Experience

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The adoption of technology in all its forms, especially information technology, is effectively achieved by the success of e-government through the quality of public electronic services provided by this type of government. In order to maximize the effectiveness of E-government and realize its vast potential, several fundamental conditions must exist to facilitate an enabling environment. The main purpose of this study was to provide effective mechanisms and procedures that define the e-government environment in Quebec and to demonstrate their capacity (or lack thereof) for assessing and developing e-governance in Canada. This was achieved through a theoretical analysis of the fundamental indicators of information and communication technology and some critical measures in terms of human, political, legal, and administrative resource capacities to perform this kind of management at the level of Quebec State in Canada.

Keywords: Quebec government, E-government, E-administration, information and communication technology, public service, citizen

Introduction

The concept of e-government is becoming increasingly important in the concerns of governments around the world. However, it covers very different realities depending on the country. For some, the mere fact of developing websites in key ministries is a form of e-government. For others, this is not the case as long as these sites are not interactive.

E-government is in support of the development of public services. The UN E-government 2016 Survey on “E-government” provides an overview of trends in the development of e-government in countries around the world. According to the survey, more and more governments are embracing information and communication technologies (ICTs) to provide services and engage people in decision-making processes in all regions of the world. The 2016 United Nations E-government Study provides new evidence that e-government can help support the implementation of the 2030 Agenda. The survey indicates a positive global trend towards higher levels of development of the 2030 Agenda.

E-government, which is increasingly creative and innovative and uses new information and communication technologies, has stressed that one of the most important new trends in the development of this

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type of management is the promotion of citizen-centric services that meet and guide their needs.

The lack of technology prevents citizens from fully benefiting from the potential of information and communication technology, which defines and develops the relationship between e-government and the quality of service of citizens on the one hand and the ease of managing the government of sovereign citizens on the other.

Part II of the United Nations Global Report on the Development of E-government 2005 highlights the need to place development thinking in what it calls the Socially Inclusive Governance Framework, which is a multidimensional approach to the promotion of ICTs, real access, with particular emphasis on the need to promote access and inclusion to disadvantaged groups in society.

E-government creates a dynamic and therefore unstable situation that complicates the scheduling of activities organized for the transformation of resources into services.

Managing complexity, however, remains the responsibility of the government. Clarifies that to establish the level of service quality, managers must take into account the accessibility, reliability, simplicity, the quality of the information given, the courtesy of the staff, the attention given to the customer, the satisfaction expressed needs, settled situations and adaptation to particular situations. And quality commitments take the form of standards whose respect and appreciation can be measured.

The need for a consensual social contract with the citizens in terms of service provision gives full meaning to the notion of quality of service.

Having had to think about the digitization of government information and its consequences for the Canadian and Quebec public administrations, this research reports work in a few pillars that explore in detail the world of e-government. A universe is that the Quebec government has attended early because in 1982 it already planned for its activities, a technological shift. To the point that today, whatever the approach, legislative, political, administrative, citizen, technological, Quebec serves as reference. You will find this diversity of point of view in the following pages.

All agree, however, around two obvious facts: The future of the government will be digital but to win these beautiful tomorrows, it will invent and persecute.

In Quebec, the new information and communication technologies have been part of the modernization of public administration for 40 years. Thanks to the information technology (IT) innovations, the state has powerful tools enabling it to collect and store enormous amounts of information, to process it and circulate it. To this end, it now has increasingly integrated information systems.

Québec's new government has made the creation of an e-government the spearhead of a comprehensive modernization of the state. But what is the vision behind this goal? Where do we dream when we imagine a society where new technologies are at the service of the citizens of tomorrow?

In light of what has been mentioned we can pose the following problematic:

- What kind of transitional context towards an e-government, requirements, challenges, and priorities for action according to the Quebec experience (Canada)?

From the above, the sub-questions of the study can be identified as follows:

- ✓ What is the concept of e-government? And what is the reality in the Canadian government?
- ✓ What kind of requirements and challenges for the implementation of e-government processes with the Quebec government?
- ✓ What type of commitment to bring the Canadian state closer to the Quebec citizen by focusing on

organizational and relational use of information and communications technologies?

✓ What type of complexity of the transformation towards a Quebec e-government?

✓ What are the stages of the transition to e-government in Quebec? And what are the problems encountered in applying this process?

- The importance of study.

The presentation that we have just made of the form and system of e-government of Quebec (Canada) was intended to outline the outline of our constitution of this study through showing how the success of the Canadian state in the field of e-government and seen as a pilot experiment through the achievements of the positive results have helped to increase the trust and transparency of the administrative and organizational relationship between the Quebec government and the citizen and the institution of various typical ratio through investment in information and communication technology through sustainable development projects has contributed to the economic, social, and political environmental development of the Quebec government.

- Study goals.

The study aims to show the main objectives of an e-government strategy in Quebec through the following points:

✓ Access to Canadian public services,

✓ The choice of types and tools of transformation towards the e-government of Quebec,

✓ The commitment of the citizen and the company through transparency and relational trust with the Quebec government,

✓ The protection of privacy and the development of a global information technology investment strategy.

In fact, in the case of Quebec, most Canadian citizens and businesses simply want better access to public services that are faster and more efficient. Moreover, there is no point in computerizing services that are no longer useful for citizens and businesses. On the contrary, they need communication tools to meet their demands in an efficient and timely manner, which is the most personal and preferred tool used by the majority of citizens and businesses.

- The literature context

Electronic Government Landscape

Since the mid-1990s, governments around the world have been implementing important initiatives to harness the vast potential of the Internet to improve and refine the governance process. Like the personal computer, the Internet has become an indispensable tool in the daily administration of the government. In an effort to appreciate the global landscape of e-government in 2001, the American Society of Public Administration (ASPA) and the United Nations Division of Public Economics and Public Administration (UNDPEPA) undertook a study of Commitment from 190 UN Member States.

The European Commission, inspired by the principles identified at the Como Conference, integrates the concept of e-democracy into its definition of e-government.

E-government is understood as “the use of information and communication technologies (ICT) in public administration, coupled with organizational changes and new skills to improve public services and processes

democratic, and strengthen support for public policies” (Benyekhlef, 2004, pp, 267-277)¹.

The United States adopted in the 2002 E-government Act (Lowery, n.d., p. 1) a much narrower definition of e-government, since online democracy is not addressed. The text only considers two aspects of e-government: online service delivery and cost optimization. According to the terms of this law:

This means the use by the government of internet applications based on networks and other information technologies, combined with processes implementing these technologies to enhance access; information and public sources and their delivery by the government and the various agencies; and to improve the way they work by promoting efficiency, effectiveness and quality. (Public Works and Government Services Canada, 2005)

This definition is complemented in practice by initiatives at different levels of government that emphasize a broader approach to e-government:

Whereas today many e-government sellers stick to a narrow insistent view on the products and services offered in a given sector, organizations that do not take into account the broader implications of e-government will not measure its true benefits and will be poorly prepared for the implementation of digital citizenship. (Auger, Charest, Grossemey, & Côté-Tremblay, 2003, p. 31)

Thus, at the local and regional level and according to the nature of the initiatives, the notion of e-government can include that of cyber democracy.

Overall, Administration online (E-administration) or government online (E-government) can include virtually all information and communication technology (ICT) platforms and applications used by the public sector. For the purposes of this report, however, e-government is defined as: *the use of the Internet and the Web to provide information and services to citizens.*

E-government: The What? & The Why?

The what. Several factors explain that all Western governments are currently investing substantial resources in the development of e-government. Before making the list, however, it is important to answer the following question: When we talk about e-government, what are we talking about exactly?

The question needs to be asked. While some people essentially define the term “e-government” as the sum of Internet services deployed by public bodies, others use it to refer to a government’s use of information technology (IT), particularly the information highway, to better fulfill all of its objectives. For example, while E-week magazine notes that the term “e-government” refers to “the web services of government organizations” and that Public Works and Government Services Canada emphasizes that it refers to the application of e-commerce (e.g., the dissemination of [information] through websites [...]) to government operations, Edwin Lau, OECD Head of Unit of the Organization for Economic Co-operation and Development (OECD) e-government, defines e-government as: *“The use governments make of IT, especially the Internet, to improve their functioning”*.

The why? Before taking action, any e-government official should identify the issues that his or her department or agency needs to address and ask how IT could help resolve them. Depending on the government entity involved, information technology may be used to:

¹ “E-government does not only mean the use of all kinds of new information and communication technologies by public institutions in order to improve both their relations with users and their internal functioning. E-government means a lot more than that. It is fundamentally about transforming the production process by which utilities are generated and delivered, thereby transforming the full range of public agency relationships”.

- ✓ Better meet the expectations of citizens;
- ✓ Better meet the needs of companies;
- ✓ Achieve gains in efficiency and effectiveness.

The expression “e-government” is a new axiom submitted to the public administrations of the democratic countries that are struggling to demonstrate and measure the issues raised by a fairly simple equation: “*E-government = E-administration + E-democracy*”.

Since the end of the last decade, e-government has inspired or, at the very least, affected most of the structural reforms undertaken by governments. However, apart from a few exemplary cases (e-democracy in Denmark or the Minnesota portal, a leading state in terms of involving citizens in the decision-making process through the NICTs), the most numerous transformations focus on the relationship between citizens and public administration.

In this perspective, ancient notions, but now preceded by the letter “E”, seem to have acquired a magical power. E-administration, e-form, e-services, e-civil servants, so many concepts were once boring for some, misunderstood, ignored, or even obsolete, which today appear “connected”. A fundamental distinction must therefore be made between the immutable essence of the activities and its new digital lighting.

The analysis of the constituent elements of this problem cannot therefore be freed from a reminder of the realities in question. This is an enlightening prerequisite for studying the issues and impacts of contemporary technologies on the state and the administration as a provider of public services.

Modernization of the Governmental System

Governments unanimously stress the value of putting information and communication technologies at the service of modernizing public administration and improving the effectiveness of government action (Gautrin & Yates, 2003, p. 34).

- ✓ A global approach;
- ✓ Strategic integration of information;
- ✓ Coordinated plans;
- ✓ The multiplication of partnerships.

E-government policies are typically centralized to move government-wide together through the adoption of common standards and management and accountability mechanisms. They encourage the implementation of integrated and organized programs from the periphery to the center, i.e., taking into account the clients.

By engaging the collaboration of departments, they facilitate horizontal approaches within government, leading to improved reliability and administrative efficiency and consistent data generation leading to improved results management.

It also creates active and secure links with other levels of government, the private sector, and not-for-profit organizations, accelerating transformations by dictating restructuring or consolidation of services and services, allowing the use of the most innovative technologies.

The medium-term strategic action plans, which cover most of the period up to the year 2006, illustrate the specificities of these processes: flexibility, transparency, interactivity, adaptability, homogeneity, and complementarity. These are challenges for public managers.

What Is E-government in Quebec (Canada)?

IDC-Canada Consulting defines e-government as: “policies and actions of public administrations to

enhance the quality of citizen services, enhance accessibility and readiness, reduce transaction costs by deploying plates multi-channel integrated electronic forms”. In practical terms, an online government allows the individual or a company to have access, at the time and place they choose, to government services (Government of Canada, Treasury Board Secretariat, 2003, p. 24).

Guide the supply of services according to the needs of citizens and businesses. Nevertheless, the freedom of choice of citizens must remain at the heart of the concerns surrounding the establishment of an e-government, otherwise the benefits of such a project may undermine democracy rather than to promote its full development. Some citizens, either because of their socio-economic status or their level of education, or simply by choice, will inevitably remain on the sidelines of these technological innovations. Traditional access routes such as telephone, counter, or mail must be maintained. However, there is a need to support initiatives aimed at getting these groups to gradually become familiar with the new information technologies and so, to the extent they wish, to become potential users.

From informational to transactional. Through its various portals and those of its ministries, the Quebec government already occupies an important place on the Internet. All departments and 31 organizations in Quebec are on the Web.

However, the majority of the sites are still informational: They only make information about the programs and services available on the Internet. Some of them are interactional: They allow citizens to “interact” with the department or agency, for example by downloading a form that must be returned by mail. Some sites are transactional: They make it possible to carry out transactions directly on the Internet, for example to fill out their tax declaration online. Nevertheless, these sites do not offer an integrated approach, i.e., “intelligent” management of information (by cross-checking certain information to prevent a user from having to enter the same data multiple times). A unique change of address system for all government services is a good illustration of what smart website integration can do.

Projects in the service of transparency. The Quebec government is anxious that all of its sites become integrated and offer citizens the opportunity to directly deal with the state online. Not only will this allow citizens to access government services in a timely manner, but will also improve the quality of government services overall. One can indeed anticipate a reduction of the risks of error thanks to the automation of certain transactions. This automation will also allow government employees to focus on value-added tasks.

Ensure transaction security. The protection of personal information, and particularly the security of transactions, is at the heart of the concerns surrounding the implementation of e-government. This condition is essential to citizens’ confidence in new technologies and their support for the revolution that e-government will allow. According to the Treasury Board of Canada, “[citizens]’s expectations of the government are greater than they are to the private sector when it comes to protecting the privacy of personal whimpering and transaction security online”. The Treasury Board of Canada’s focus group testing also demonstrates that the simple sharing of basic information such as names and addresses between departments and agencies is not a problem for citizens, which promotes efficiency. Respondents therefore have no major objection to this information being shared, subject to prior authorization. In the framework of the Québec e-government project, an in-depth reflection is being conducted in this direction, with the collaboration of the Quebec Access to Information Commission (Boudreau, 2003, p. 2).

Cyber democracy: Towards greater citizen participation. In the longer term, the establishment of mechanisms for on-line democratic participation will create the conditions for what is increasingly known as

cyberdemocracy. Cyber-democracy aims to increase citizen participation in all democratic processes, for example by conducting online consultations on government policies or by opening up real political discussion forums, eventually culminating in online voting. Somehow recreating the agora of ancient Greece, but in virtual form this time, new technologies are undoubtedly part of solutions that aim to re-interest citizens in public and political life (Roy, 2006, p. 2).

Responsible management of public funds. Major projects such as implementing e-government must be done step by step, to avoid getting bogged down in error and gobbling up taxpayers' money. Inspired by an essential global vision, those responsible for such a project must first split it into separate parts, which make it possible to set short-term goals and to measure the results as they go along. It is by advancing step by step, success after success or bite after mouth, that the online government, innovative project par excellence, will succeed in improving services to citizens.

The Context: Internet and Modernization of the Canadian State (Quebec)

For now, the wave of online services has not really swept the state. It is rather on the back of the wave. He does not know the height yet, nor does he know how far he will lead it.

Consider only the implementation of horizontal services or clusters of services (change of address, business start-up, youth portal) and their impacts on the back-shops of departments and agencies. However, we know that transformations are likely to be profound and rapid, despite the bureaucratic resistance of public organizations.

To fully understand the causes and scope of online government transformations, the societal context in which these transformations take place must be studied. The desire to modernize the Quebec state is part of this context.

The idea of modernizing the state is not new. It dates back to the early 1960s when the welfare state was created. But it is no longer a matter of setting up the foundations of a modern state, but of revising its foundations in order to do better with less and, above all, to do otherwise and to do so in partnership.

For the political leaders of most Western countries, e-government is an essential ingredient of the modernization of the state, which in Quebec is called "reengineering" (Bernier, 2003).

The rapid expansion of the Internet has fueled the emergence of e-government at all levels in Canada. The first decade of cyber government included an online service based on a technically secure infrastructure. This link between services and security involves internal governance reforms aimed at achieving more client-centered delivery through integration and coordination across departments and agencies. Yet, as the online network becomes more widespread and public demands for participation increase, the pressures for greater openness and greater accountability intensify. The result is the expansion of experimentation with online democracy. The focus of e-government shifts to issues of transparency and trust—and new opportunities to re-conceptualize how power is organized and deployed.

The E-government of Quebec: Legislative Framework and Initiatives

Given the federal nature of Canada, it will soon become clear that the legislative frameworks, as well as the various initiatives in the sector, are multiple: one federal level, 10 provinces and two territories. We will limit our remarks to the federal government and Quebec. The study of the current legal framework shows that no comprehensive and concerted approach has been put in place to address the normative challenges raised by e-government. The various levels of government, legislating in their own field of competence, have not adopted

legal rules specifically related to e-government issues.

Public Administration in the Age of Digital Government in Canada

The e-government comes out of the hat. More than an umpteenth “managerial mode”, it is indeed a real revolution whose upheavals shake the foundations of states and their administrations called to reinvent the exercise of their powers. But the orthodox ruler, would she be dubbed by the letter E, resists vertigo. Because if the public action undergoes henceforth the ascendant of the numerical one, this one folds before the sovereignty of the democracy (Vermeys, Benyekhlef, & Gautrais, 2004).

A Problematic Common to Democratic States

Observe, in developed countries, the progress of communication technologies in the state sphere, allows to isolate a multidimensional thematic. For the purposes of our development, we will retain six figures.

- ✓ Is the era of industrialization really giving way to a new era?
- ✓ All roles and functions of the state are confronted with technological progress;
- ✓ Some technological applications may offend fundamental rights;
- ✓ Preserved hunts of the states implicated by the evolution of technologies;
- ✓ Technological development should be seen as an ongoing process;
- ✓ The contemporary challenge of states: predicting the future and governing within certain boundaries.

The State as Responsible for the Delivery of Public Service

The impact of the use of communication technologies in the day-to-day management of the activities of the generating or distributing state of public services is closely linked to the public service context and the obligation of transparency that must prevail there.

- ✓ The unique environment of the activity of the public apparatus;
- ✓ Adaptation of the legal rule;
- ✓ An explicit and orderly digital service offering;
- ✓ The technological performance of the administration must not be obliterated by a social fracture;
- ✓ The new technical and ethical design of public administrations.

Online government is seen as a means of modernizing the state in its modes of operation and governance. He is credited with several benefits, such as bringing the citizen closer to the state, or simplifying the lives of businesses. There is no doubt that e-government is a tool with powerful potential for state transformation in terms of service delivery (speed, personalization, and efficiency) as well as transparency, administrative power and efficiency, democracy. Some might be tempted to see it as an efficient way to respond to the massive retirement of government employees. Others see it as a way to broaden citizens’ participation in the political process.

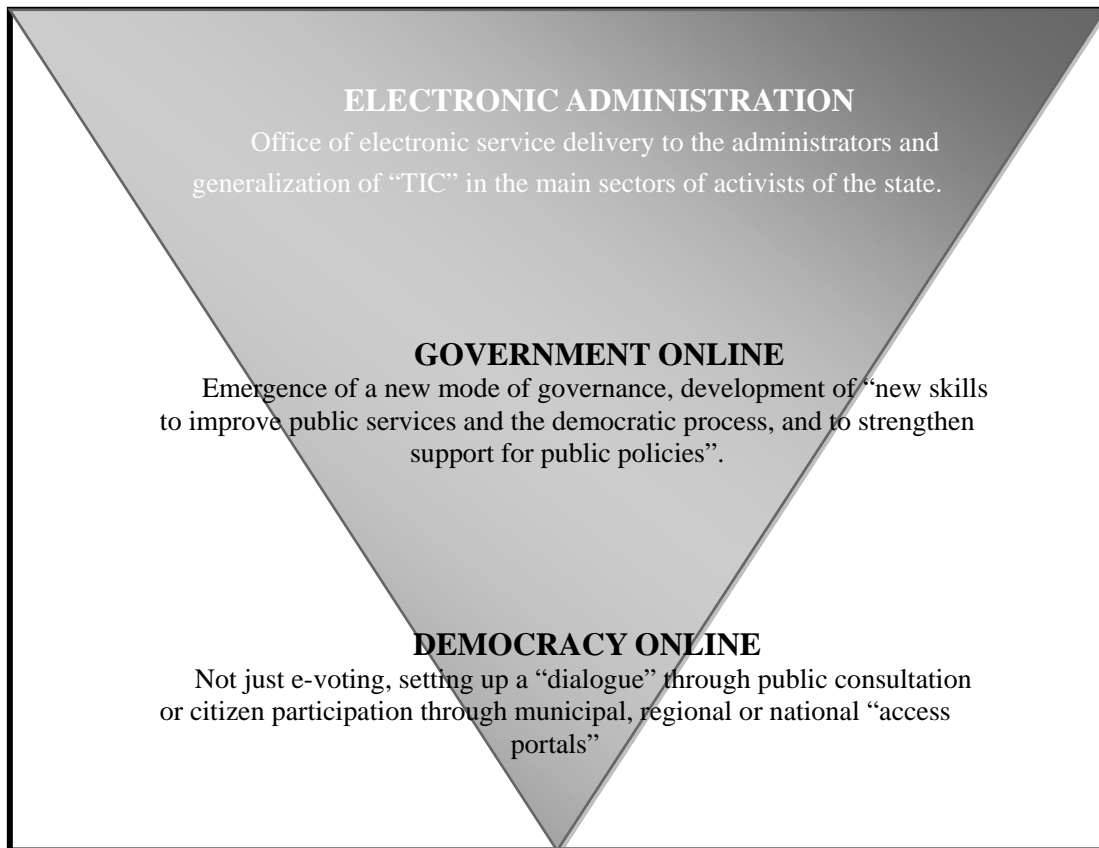


Figure 1. Online public administration in Canada. Source: K. Ben Yekhllef (2004), Online public administration in Canada: Terminology and state of reflection. *French Review of Public Administration*, 2(110), 271.

Canada is not immune to these doctrinal discrepancies. E-government is in turn presented as the mere delivery of more efficient and accessible electronic government services or as a new form of democracy, in which the citizen-government relationship acquires new legitimacy. This discrepancy will not surprise the observer. Indeed, the world of information technology is constantly brewing new concepts, new ideas and, therefore, a multitude of definitions and meanings for applications at first similar.

This phenomenon can be observed in the e-commerce sector where the players do not seem to agree on the meaning to be assigned to terms such as market place, electronic market (Vermeys, Benyekhlef, & Gautrais, 2004).

The novelty of the sector can be an explanation. Marketing considerations are another. Indeed, we must not lose sight of the fact that the main initiators of the online government are also sellers of software applications and system integrators whose speech is not free of commercial motives and who continually proclaim the novelty of their products and services by confusing them with ever more attractive names and terms and constantly changing the meaning and definition of the terms used. In any case, the meaning of the expressions is far from being definitive. This will not surprise us since we are still in the early stages of networking public administrations. We will then retain a certain plurality of terminology but especially the three components of the general idea of putting administrations online: e-management (services to citizens), e-government (optimization of democratic governance), and online democracy (citizen participation and online consultation).

These three components are not necessarily all found in government programs. However, it will be possible to recognize and distinguish, with the aid of this first classification, the various initiatives under way in Western democracies.

Implementing the Infrastructure of a Québec E-government

It is necessary here to distinguish between the texts that can facilitate the establishment of the infrastructure of a Québec e-government, those that aim to regulate access to data and the protection of personal information.

The law concerning the legal framework of the information technologies is a law of general application coming framing certain activities on Internet:

✓ The law on the legal framework of information technology (...) clarifies the law relating to documents recorded in paper form or in other media such as those based on the use of information technology. It makes adjustments to several fundamental notions of Québec civil law in order to make it fully compatible with the safe use of information technologies.

✓ The law is of general application: All situations that are not the subject of specific rules in particular laws are governed by the principles set forth in the law concerning the legal framework of information technologies.

✓ The law provides rules for the preparation of documents on various media, the transfer of information from one document to another, and the conditions of the integrity of documents throughout their lives, the link between a person and a document, as well as certification. It puts in place specific protections for personal information and clarifies the conditions of liability of service providers.

Two principles can be identified as the “founding pillars” of the law, namely: Functional Equivalence and Technological Neutrality.

✓ The first “is to look for the functions that a legal instrument possesses, such as writing, a signature or an original and to transpose them on any other medium that will be able to reproduce these same functions”.

Thus any electronic document can fulfill the same functions as a paper document.

✓ The second principle, that of technological neutrality means that in the presence of an electronic medium and a paper medium, one medium will not be favored over another.

The law also deals with the integrity of the electronic document: It must present the same guarantees offered by the paper in terms of authenticity and stability throughout its life cycle (Vincent, 2002, p. 12).

In practice, a digital document is entirely dependent on its environment such as the hardware, the software, the operating system, the encoding format, and even the medium on which it was recorded. The concept of life cycle provides a guarantee of sustainability by integrating archiving so that the data does not deteriorate.

Thus, although the law concerning the legal framework of information technologies does not bear the primary responsibility for the issue of the posting of public administration, it is nonetheless relevant for these purposes since it organizes the legal status of the document as an essential element of the administrative function. The law thus contributes to ensuring a legal translation of some of the efforts made to establish an e-government, the Law on Access to Documents of Public Bodies and the Protection of Personal Information contains rules, as well as its title, indicates, on the access of citizens to documents of public bodies and ensures, at the same time, the protection of personal information held by these organizations.

Again, this law does not specifically address the conditions for setting up and deploying electronic public

administrations. However, respect for privacy has a prominent place in the general information technology law economy and, more specifically, in the establishment of a global communication and exchange infrastructure. The protection of personal data thus often appears as one of the first concerns mentioned by the actors involved. Section 59 of the Act prohibits the disclosure of personal information between the public bodies that are subject to it.

This prohibition is obviously subject to exceptions. The fear of building a mega-database is often put forward to justify the principle of non-communication between public bodies. It will be understood that this fear runs up against the very principle of optimizing governance (e-government), since the purpose of networking the administration is precisely to facilitate the flow of information within the organizations. We go from the state silo to the state network (Art. 5 of the Law Concerning the Legal Framework of Information Technologies).

It goes without saying that this communication must be subject to special conditions that would make it possible to avoid the constitution of these gigantic databanks. Certain postulates of the law should certainly be reconsidered in order to adapt it to the principle of the network which must characterize an online public administration.

The Legal and Political Framework of the Federal State of Quebec

The federal legal framework has substantially the same characteristics as those described for Quebec. Here, too, the observer can not find any legislative instrument intended precisely to regulate the putting on line of the federal public administration. So there is no specific text for the “government on line”, an expression used by the protagonists of the online government. At the federal level, there is also a privacy act to protect the information of federal institutions. The issues of disclosure of personal information arise in terms almost identical to those already identified in the Quebec framework. Beyond this text, the observer can find a myriad of policies and directives adopted by public bodies that come to offset the silences of the law. Thus, we can cite some of them:

Privacy Impact Assessment Policy. The purpose of this policy is to ensure that Canadians consider privacy principles in the formulation of program and service proposals that may have an impact in this regard. Beyond the design phase, privacy concerns arise during the implementation of programs, through constant evaluation of privacy factors, and through regular reporting of the results of these evaluations to the Commissioner for the Protection of Privacy, protection of privacy and the public.

The Public Key Infrastructure Management Policy (the “PKI Policy”). The government of Canada has chosen to adopt public-key technology as the preferred means of electronic authentication of people and documents. Public key infrastructures, based on the principles of asymmetric cryptography, are used to code data and use digital signatures to facilitate secure electronic transactions. This policy should be very useful in the context of the transactional electronic services offered by the administration to citizens (Caprioli & Sorieul, 1997).

Government of Canada Certification Policies (GC PC). When a certificate authority issues a certificate, it indicates to its user the existence of a specific public key associated. This policy will be useful for transactional electronic service offerings. It tends to ensure the identity of the protagonists of an electronic transaction that requires a certain degree of security².

² Retrieved from http://www.cio-dpi.gc.ca/pubs_pol/ciopubs/PKI/pki_f.asp (accessed 01-03-2017).

The programs “secure communication channel and Epass”. Public Key Certificates allow government departments and agencies to confirm the identity of Internet users, while ensuring that Internet users have the identity of the government agency they want to deal with. This program complements the previously mentioned certification policy (*The Economist*, 2004).

Electronic Government in Quebec—Canada

In Quebec, as elsewhere in the West, the deployment of e-government is one of the foundations of the state’s modernization project. Since the mid-1990s, Québec departments and agencies have intensified their use of information technology (IT) and created a host of websites and online services to better meet citizens’ growing expectations and businesses and to increase the efficiency and effectiveness of the administration.

However, there are many pitfalls for e-government officials, with the result that some expected projects never reach the start-up stage. In addition, some promising initiatives are abandoned along the way, and some projects are completed, but the originally promised gains (such as operating cost savings) are realized (CEFRIO’s booklet, 2005).

It is to better understand the problems encountered by Quebec leaders in the deployment of e-government and to propose solutions to solve them that CEFRIO, with the support of 13 governmental and private partners, has set up the multidisciplinary research project, “Electronic Services to Citizens and Businesses”, which ran from 2002 to 2005.

This project, the latest in a series of major research and in-depth surveys of CEFRIO on the transformation of public services by IT, has collected a large body of information on the expectations of Quebecers for e-government and resulted in the creation of an integrated model of e-government (Boudreau, 2003, p. 34).

Adapted to the Quebec context and inspired by exemplary global practices, this model will guide those involved in the implementation of e-government and help them ensure the success of this important initiative. It may also be useful to e-government project developers undertaken by other levels of government.

In Quebec, the new information and communication technologies have been part of the modernization of public administration for 40 years. Thanks to the IT innovations, the state has powerful tools enabling it to collect and store enormous amounts of information, to process it and circulate it. To this end, it now has increasingly integrated information systems. The Internet is one of the most complete incarnations of this technological progress. More than just a technological tool, the Internet proposes a mode of organization in networks that structures more and more the social, the economic, the administrative, and the political. In fact, few institutions escape, including the state. All put themselves in the Internet time to inform themselves. The Internet is a global phenomenon, just as printing, telephony, or television was in their day. The rapid growth in the number of users shows this: They were 16 million in 1995 and 500 million in the early 2000s (Bernier, 2004).

In North America and in several European countries, notably the Scandinavian countries, as well as Australia, South Korea, and Singapore, more than half of the populations are internet users.

Through its global network, the Internet is the technological and informational foundation of the new economy based on the real-time management of information and knowledge. In this economy dominated by innovation and competitiveness, the organization, including the state, needs more than never to be innovative and, to do so, organize itself into a network rather than a silo. This does not mean the disappearance of the bureaucratic organization.

Other, more horizontal and flexible modes of management must be superimposed on current hierarchies in order to better meet the demands of citizens and businesses.

This reorganization of public management methods is all the more necessary since the government has formally adopted in the Public Administration Act the "client approach" under which the organization must specify and improve the level of public administration. Quality it intends to offer to its customers. Integration and customization of services, administrative relief, continuous and permanent services, simplification of procedures, diligence, clusters of services, life events, these are the new leitmotifs that mark the development of e-government and force

Managers to otherwise organize the operation of departments and agencies. Several organizations will need to learn how to coordinate to provide integrated services that are better suited to the everyday reality of citizens and businesses.

But the customer approach is also a logical response to the demand of an increasingly demanding and vigilant population. As a taxpayer, citizens demand quality public services and, when necessary, compare them with private sector services. As an elector, he intends to be informed of the decisions that concern him.

The transparency of the state and the accountability of its leaders depend on it. Here too, e-government is seen as a solution to improve the quality and efficiency of services, to be they informational (e.g., remote access to a document), transactional (e.g., filling in a report, online tax) or democratic (e.g., voting on the Internet). It is easy to understand that online access can make life easier for citizens or businesses by avoiding travel and reducing red tape.

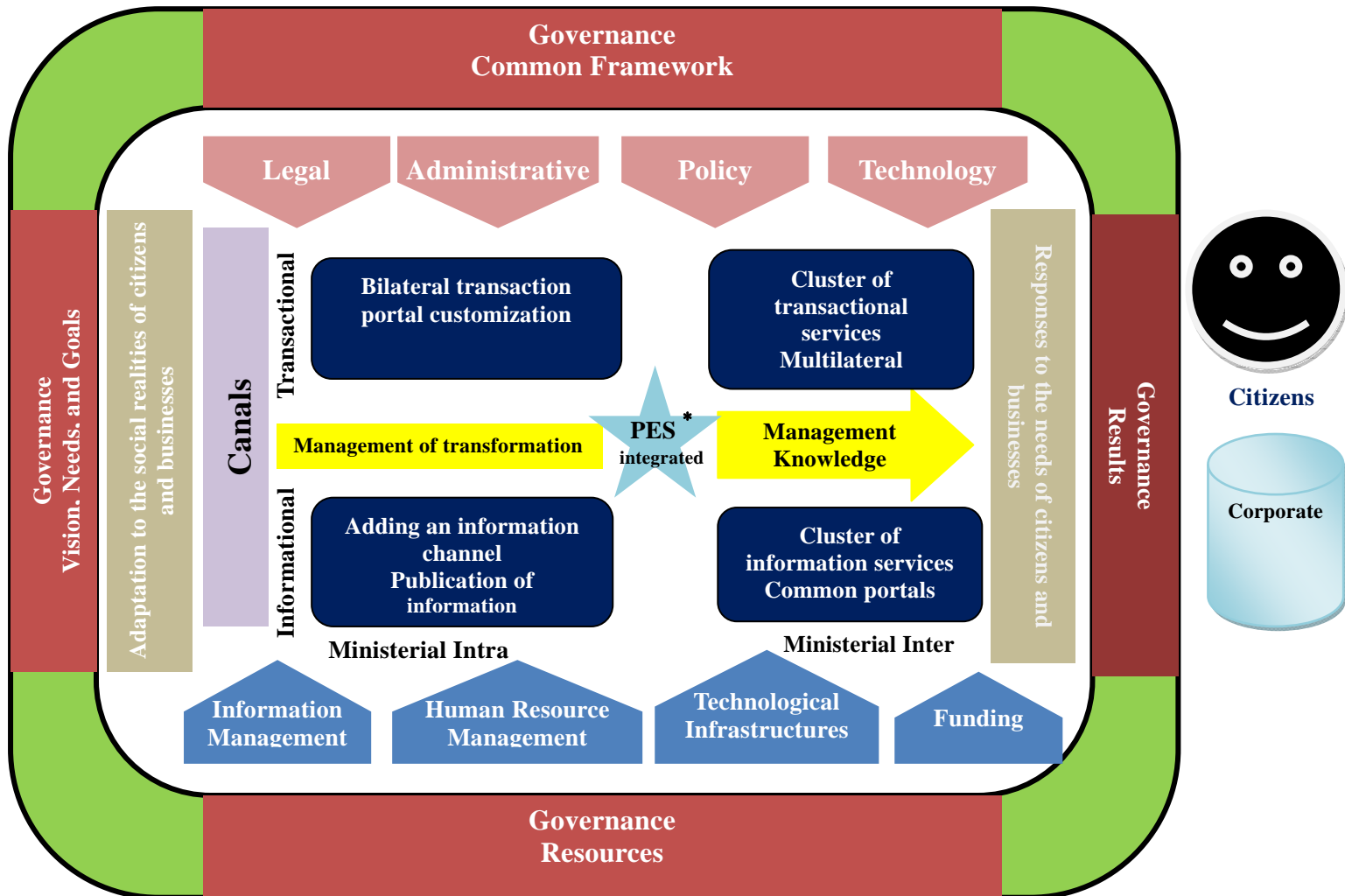


Figure 2. The model integrates the electronic government of Quebec. Source: CEFRIQ, Guide on e-government (2006), Towards a new relationship between management and citizens, Canada-Quebec, p. 9.

First, by the intended audience. Thus, this model targets all those in departments, agencies, networks, and municipalities to start, implement, and monitor new e-government projects. Many of the recommendations made in the context of the integrated model (e.g., a support fund for the start-up of interdepartmental projects, revised elements of the Quebec framework for the protection of personal information), senior management officials or senior management of departments and agencies.

Then, by its content. As a corollary to the previous point, the lessons contained in the present research are meant to be more tactical than the recommendations presented in the various reports of the researchers of the CEFRIO research project (French-speaking center for information and organization). Thus, where the integrated e-government model emphasizes the potential importance of public-private partnerships (PPPs) as a source of funding, research distinguishes between different types of public-private partnerships and provides practical guidance for putting them in place.

Managers are responsible for delivering e-government projects from different levels of government, launching and managing them.

Thus, this research is designed to help the person who has been instructed by the user, to launch the site and make it known to the Internet users or to ensure that, the month after month, the year after year, the site allows the organization to meet the goals it has set for itself.

This research is also intended for other e-government players—political leaders, senior management, union representatives, technology specialists, customer service representatives, suppliers, the general public, etc., albeit in a partial manner or less direct. For example, it does not contain recommendations on the major legal or administrative changes that the government should make in the coming years to the success of e-government, such as “The government should consider adapting such legislation” or “The government should consider revising its fiscal horizon”.

The reader is interested in such a discussion of the benefits of consulting the documents of CEFRIO (translated from French) and to companies, for example.

Table 1

The Quebec Project of CEFRIO (Francophone Center for Computerization of Organizations) in the Field of E-government

| Projects | Goals |
|--|---|
| Electronic services to citizens and businesses (2004) | <ul style="list-style-type: none"> • better understand the expectations of Quebec citizens and businesses in terms of electronic services; • define service delivery models that can help meet the expectations of citizens and businesses; • develop practical solutions to the various organizational problems that prevent the state from adequately meeting the expectations of Quebecers and <u>deploying the most promising delivery models.</u> |
| E-news Bulletin (2004) | <ul style="list-style-type: none"> • produced by CEFRIO on behalf of the Ministry of Government Services; this bulletin presents best practices in e-government. It also describes the most interesting Quebec and foreign actions in the field. |
| Major surveys on e-government (GOV NET 2003; 2004; 2005) and on the municipal WEB (2004) | <ul style="list-style-type: none"> • determine the level of information of Quebec citizens, businesses, and municipalities and understand their expectations and behavior with respect to e-government. |
| Regulatory easing and NICT: new opportunists to facilitate the link state-companies (2000) | <ul style="list-style-type: none"> • to explore in what and how? IT can help ease and simplify the administrative burden on business by the state. Specifically analyze cost-benefit analysis methods for IT implementation, with a view to reducing regulatory burden. |

(table 1 continued)

| Projects | Goals |
|---|---|
| Development of an Information Resource Management Policy (1999) | <ul style="list-style-type: none"> • formulate, following the conduct of comparative studies, the vision of the network state, and determine, for Québec, the possible models of information resource management policies. |
| New models of collaboration for the delivery of public services to citizens and businesses (2004) | <ul style="list-style-type: none"> • analyze various innovative collaborative approaches (e.g., public-public partnership, public-private partnership) that can lead to improved public service delivery. |
| Evaluation of pilot projects in radiology and cardiology (1998). | <ul style="list-style-type: none"> • conduct a participatory evaluation of two pediatric telemedicine (teleradiology and telecardiology) pilot projects. |
| The CLSC of the future (2004) | <ul style="list-style-type: none"> • test the performance of methods and tools (e.g., remote monitoring) that promote the delivery of integrated home health care to seniors. |
| Development of Local and Regional Authorities by IT (2004) | <ul style="list-style-type: none"> • explore topics as diverse as the needs of citizens and businesses for better integrated services and privates (e.g., health, education, business support), e-business, and new forms of democracy and local governance. |
| Networked Distance School (2004) | <ul style="list-style-type: none"> • define the context in which IT could be deployed to address some of the sustainability and vitality issues of primary and secondary schools established in remote areas. |
| Modes of Work and Collaboration in the Internet Age (2004). | <ul style="list-style-type: none"> • set up communities of practice and analyze them in order to understand their dynamics and determine their conditions of development. In the public sector, several of the communities have been created to enhance the development of the next generation, the management of regional offices, or the improvement of the skills of human resources, particularly in health. |
| Investigations into the creation and management practices of government web sites (2000) | <ul style="list-style-type: none"> • study the practices used and propose a series of recommendations that could lead to the improvement of government sites and increase user satisfaction. |

Source: Rondeau, Croteau, & Luc (2005). An empirical assessment of technological and transformation challenges related to the deployment of e-government in Quebec. *Information Systems and Management*, 10(1), 62.

A study published by the French Center for Computerization of Organizations (CEFRIO) in August 2003 indicates that Quebecers are ready to make electronic transactions with government authorities. Thus, among the 60% of Quebecers with Internet access, 68% consider that the government “should grant [a high priority] to the establishment of various services over the Internet”; this proportion reaches 64% for businesses. Attendance at government Internet sites confirms this interest. Indeed, “more than one in three citizens visited the Web site of a Government of Canada (36%) and Quebec (35%) department or agency in the last year. A study by IDC Consulting corroborates this new global trend. Between 2001 and 2003, in the five countries studied (Australia, Canada, New Zealand, the United Kingdom, and the United States), the percentage of citizens using the Internet as the primary medium for accessing government services doubled (from IDC Consulting, “Vision to Benefit: E-government Solutions Study—The New Brunswick Case”, May 2003) (Gautrin & Yates, 2003).

Manage Transformation Projects towards Quebec E-government

The establishment of e-government is in all respects a major transformation of Western governments. In fact, the use of IT in the various spheres of government activity, in particular the deployment of the Internet “channel”, has an effect on the expectations of citizens and businesses, on the methods of departments and agencies, on roles and responsibilities of their staff, and sometimes even on the missions of government institutions.

Like any significant change in IT, this transformation must be done with sensitivity. Indeed, the success of e-government projects undertaken by departments and agencies depends on their ability to address three dimensions (Rondeau, Croteau, & Luc, 2005):

- *Strategic dimension*: Leaders must set the broad goals of change, and these goals must be “powerful enough to guide action”. They must also produce the guiding principles and resource allocation framework that will guide decision making throughout the transformation phase;

- *Functional dimension*: Managers must then translate the objectives and guiding principles established in the strategic plan into a concrete deployment plan including a timetable, the description of a steering structure and that of support, monitoring and adjustment mechanisms. It is then necessary to determine the very process of the transformation;

- *Operative dimension*: Managers must recognize the contribution of government employees to the implementation of e-government by helping them to take ownership of the changes underway. They must also ensure that there is a concrete match between the socio-organizational practices of ministries and agencies (for example, their methods of evaluating personnel) and their new objectives (operational dimension).

Neglecting one or the other of these three dimensions can lead to failure of the transformation effort. For example, “setting specific targets and deadlines is not enough, in itself, to change an organization”, says Alain Rondeau, head of the Center for Studies in Transformation of Organizations (CETO) at HEC Montréal. Change, he says, requires not only an intention

Clearly expressed, but also a plan of action.

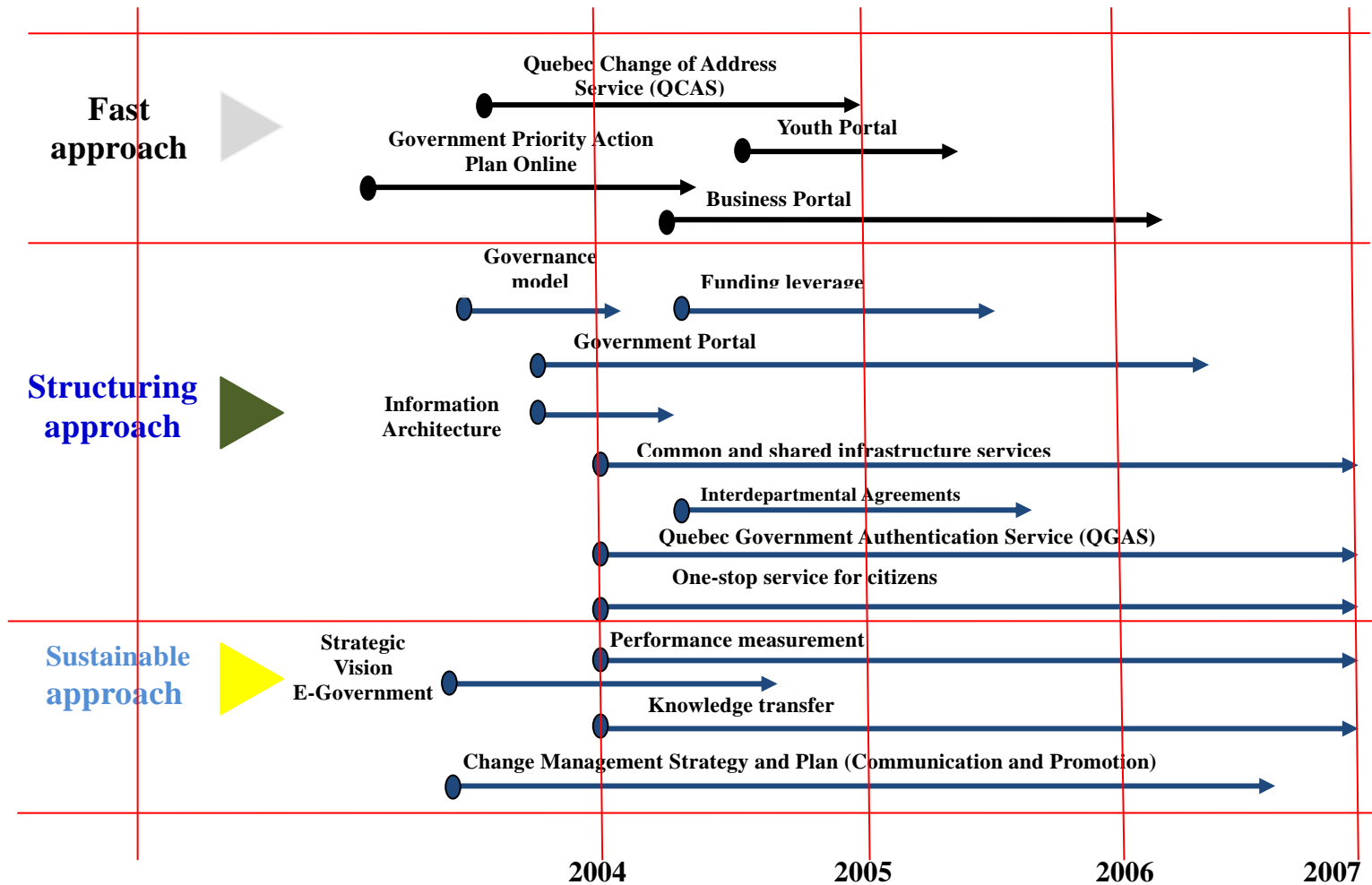


Figure 3. Approach to implementing e-government in Quebec. Source: Secretariat of the Conseil du trésor, Office for the Development of Electronic Government Under-Secretariat for the Government Information and Information Resources, Québec-Canada, March 2004, p. 29.

Act with Caution

When it comes to e-government, it's better to be cautious. In fact, the more technologically and administratively complex the transformation process is, the greater the number of socio-organizational variables to be controlled and the greater the risk of slippage. For example, it is usually more difficult to deploy a transactional website than an informational website. All studies, including those of CERFIO, also reveal that intra-departmental projects are usually easier to implement than interdepartmental projects.

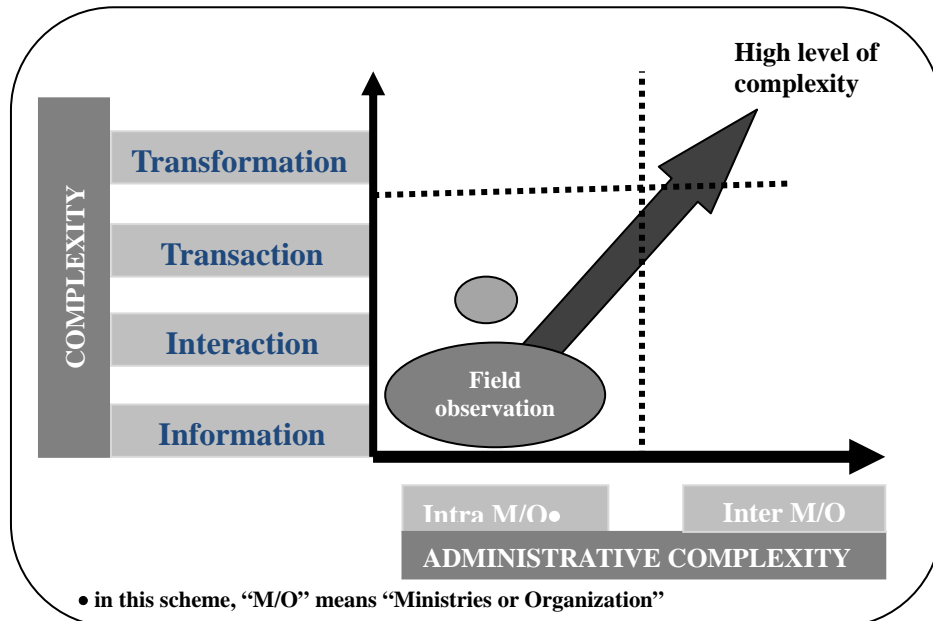


Figure 4. The complexity of the transformation to e-government (Quebec). Source: Rondeau (2004), *The transformation towards e-government—learning and challenges—Quebec—CERFIO*, p. 9. Retrieved from www.cerfio.qa.ca/projet/documents_transformation_vers_un_gouvernement_en_ligne.pdf (accessed February 24, 2017).

The diagram above allows three findings (Canadian Center for Management and Treasury Board Secretariat, 2002, p. 9):

- First, before embarking on an e-government project, policymakers must agree on the answer to the following question: “How far are we really willing to change?” They must then pinpoint what their response is both functional and operational.

- Secondly, as Alain Rondeau et al. write, the implementation of e-government projects is often such a delicate intervention ... that the complexity must be reduced by targeting actions where the results will be visible and fast. In fact, it is impossible to change everything at the same time, and we must avoid putting one or more departments and agencies in a vulnerable and destabilizing situation. Knowing that a transformation approach can not be dictated even program. And because it must take into account the conditions and capacities in place, the resources, the requirements, and the urgency of the situation, implementing the change requires a division into realistic and achievable components in order to make this intervention manoeuvrable.

- Third, the organization must be aware that managing change requires considerable time and resources. Too many organizations still believe that it is possible to carry out an IT transformation project at lightning speed and for a pittance and, despite everything, achieve extraordinary results. “If the required resources are not

available, the desired effects will not happen”, says Albert Dexter, professor and researcher at the University of British Columbia. Similarly, some organizations believe that it is possible to conduct a major IT project without interrupting the normal course of business. “Their leaders believe they will reach their targets by either requiring additional effort from the company’s staff or stretching existing budgets. They are wrongly wrong. IT project management is not something that can be done right at the same time as everything else”, says this eminent professor from British Columbia.

The Stages of Transformation Towards the E-government of Quebec

Any transformational approach using IT has three critical steps (Rondeau, Audet, Jacob, & Lauzon, 2001, p. 120):

A. *Definition and sharing of the chosen orientation:* The nature of the transformation project and the objectives to be achieved must first be defined, translated into an organizational model, and the recipients of the project, the people affected by it, must adhere to it. To ensure the readiness of staff to embrace and take advantage of new IT, information sharing and communication activities are of primary importance. Among other things, project leaders can stimulate recipients by involving them in discussions and decisions. They can also reassure them by keeping them informed of the impact of the transformation on their position and responsibilities, and by showing them similar sites;

B. *The empowerment of people:* At this stage, change-affected employees must be empowered to effectively use the technologies in place and provide them with the coaching, resources, and responsibilities to develop new ways of doing business. Different activities can support the empowerment of members of the organization, such as coaching or distance learning. The use of simple but well defined indicators will help to evaluate the success of these measures;

C. *Systems integration:* Technological changes affect the way departments and agencies operate—for example, how to allocate material resources or deal with complaints. The systems integration step is used to create areas within which the organization can operate differently, before re-creating a new organizational coherence.

Table 2

Putting an E-government Project in Bad Shape

| |
|---|
| Sometimes an e-government project is running out of steam, that is, it is falling behind schedule and is running out of line with what was originally planned. However, it is possible to prevent a runaway project from ending in failure or leading to the delivery of an inefficient system. In fact, 10 measures can help put a bad IT project back on track. |
| 1. Prepare a recovery plan: <ul style="list-style-type: none"> • Above all, temporarily suspend the project; • Be sure to identify the causes of the problems encountered, assess the quality of the resources allocated to the project, and identify the most promising solutions; • Develop the recovery plan for the project. It will often be beneficial to invite people from outside to participate in this operation. |
| 2. Review the scope of the project: Consider seriously reducing the scope of the project. In particular, you could postpone the development of some desirable but unnecessary features. |
| 3. Assess who is responsible for the project: If project leaders do not have the leadership, human resource management skills and communication skills revive the project, replace them, or add to the existing team. Employees who are able to offer them new expertise. |
| 4. Reassess the relevance of the project and consider the possibility of ending it: <ul style="list-style-type: none"> • Do not consider sunk costs; • See if the expected performance of the project has changed since it started. |

(table 2 continued)

| |
|---|
| Sometimes an e-government project is running out of steam, that is, it is falling behind schedule and is running out of line with what was originally planned. However, it is possible to prevent a runaway project from ending in failure or leading to the delivery of an inefficient system. In fact, 10 measures can help put a bad IT project back on track. |
| 5. Review the project planning: Review the project budget and schedule in light of any needed corrective action. |
| 6. Manage users' expectations: Determine whether users' expectations of the project remain realistic. If they are not, explain clearly to users what they can expect from it. |
| 7. Prepare a communication plan: Openly and constructively communicate your recovery plan to everyone involved (senior management, users, etc.). |
| 8. Divide the rest of the project into smaller pieces: Break up the project into steps that will be easy to ensure control and measure success. |
| 9. Address human resource issues within the team: Consider removing employees or consultants with insufficient skills from the project. This will help you improve the image of the team assigned to the project. However, make sure that the decisions that will be made are justified. |
| 10. Update your implementation practices: Modify the practices and methods used by the organization to reduce the risk that your future projects will encounter similar challenges. |

Source: Iacovou & Dexter (2004). Turning around runaway information technology projects. *California Management Review*, 46(4), 68-88.

E-government is an important lever for the modernization of the state through:

- ✓ Outstanding opportunity to transform services to citizens and businesses;
- ✓ Impulse for a change of culture;
- ✓ Important short-term investment/medium and long-term profits;
- ✓ Daily active trading;
- ✓ A demanding and mobilizing challenge that particularly challenges public administrators.

Finance Quebec's E-government Projects

There are multiple financial barriers to the overall process of e-government implementation by the governments of the industrialized countries. These difficulties have been described at length, and the central bodies, in Quebec as elsewhere, are currently working to remedy them. However, the challenges of financing e-government projects are not only macros: They are also micro, that is to say that each ministry or organization must seek to develop its ability to raise the necessary financial resources for start-up promising projects.

This data is particularly important. In effect the first two questions posed to the promoter of an e-government project are usually "how much will it cost and will it bring back?" and "where will the money come from?" It means two things (L'OCDE, 2003 p. 51):

- ✓ Promoters of an e-government project must be able to support it with a convincing business plan, especially in financial terms;
- ✓ They must be able to make financial arrangements more or less complex and exploit sources of various financing.

Some Answers to the Big Problems of Financing of the Electronic Government Québécois (Canada)

The Quebec government has begun to address some of the glaring issues that hinder the funding of the e-government initiative. For example, it has established a provision for the financing of e-government pilot projects, which includes credits that can be used to defray a portion of the costs of horizontal projects (Québec, CEFRIO, 2017).

The investment credits of this provision are used to cover the costs of capitalizable goods:

- ✓ Operating appropriations, expenses expensed during the year;
- ✓ Depreciation and reimbursement of capital expenditure over a period of five years.

The government has also entrusted a new agency, Services-Québec, with the responsibility of putting e-government in place. In particular, the agency can help departments and agencies launch new e-government projects by providing them with some of the expertise and financial resources they need. That said, other solutions are still waiting, notes Maurice Gosselin, professor at Laval University and associate researcher at CEFRIO, and some of them can only be implemented by central ministries. According to this academic, it would be appropriate, in the years to come (L'OCDE, 2003, p. 54):

- ✓ Work towards establishing standardized methods for calculating the benefits and costs of e-government projects (these methods would pay particular attention to the economic benefits of e-projects);
- ✓ Provide departments and agencies with specific credits to cover the amortization of the sums invested in intra-departmental e-government projects;
- ✓ Imitate countries like Belgium and put in place three-year budgeting mechanisms;
- ✓ Enable departments and agencies to retain the gains made as a result of the start of e-government projects;
- ✓ Enhance central budget allocations for the start-up of inter-ministerial projects and transversal infrastructure projects that are expected to be leveraged;
- ✓ Consider that departments and agencies may charge citizens and businesses for the privilege of carrying out certain operations over the Internet.

Conclusion

Today is no longer the fundamental question "If ? " But "How ? " Developing countries can reach the stage of E-Government, where it is important to integrate information and communication technologies into public administration systems and build management teams. Who represent effective leadership and able to work in the "e-government project".

E-Government should achieve more effective management by streamlining business processes. Among the important steps to achieve the above is the work of the state to bridge the gap between the design of the E-government project and the actual performance of the project.

E-Government will inspire managers and professionals who want to innovate and improve their ways of working. Many governments prefer to opt for incremental changes rather than large-scale transformations.

In e-government, this strategy offers considerable benefits as follows:

- * It promotes fast results and therefore, demonstrates the benefits of e-government;
- * Review of online government projects in Canada such as: Veterans Affairs Canada, Customs and Canadian Heritage;
- * Shows the adoption of the phased approach and the implementation of pilot projects largely explain;
- * The success of the on-line initiative of the federal government.

In summary, the prospects for digital transformation in e-government in Quebec involve the interaction of

these four dimensions: service, security, transparency and trust.

This research identifies the main factors of e-government in Quebec, and assesses the responses of the Canadian public sector to date and describes the main challenges and future choices.

The results will be interesting for those who study or work in the world of public sector management (for example: Algeria) and their e-government in the future.

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